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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,589

03/30/2004

Susanne A. Paul

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06/15/2006

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EXAMINER

SHINGLETON, MICHAEL B

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/813,589

Applicant(s)

PAUL ET AL.

Examiner

michael b. shingleton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 47-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 47-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Michael B. Shingleton

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/06 four sheets.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The terminal disclaimer filed 4-7-2006 has been received. However, the examiner has not been given the indication of whether or not is acceptable. Accordingly, the double patenting rejection is maintained at this time and as soon as the examiner is informed about whether or not the terminal disclaimer is acceptable or not this information will be passed on to applicant. Thus the double patenting rejection will be withdrawn if the terminal disclaimer is found acceptable and if not the examiner will restart the time period to respond along with informing applicant exactly what is wrong with the terminal disclaimer.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 47-51 and 57-62 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 57-62 of U.S. Patent No. 6,392,488. Although the conflicting claims are not identical, they are not patentably distinct from each other because the all the limitations of the claims of the instant application are present in the claim limitations of the '488 Patent. The '488 Patent includes further limitations like a tuning circuitry and providing tuning circuitry and thus the scope of the claims in question are not exactly the same. In other words the claims of the instant later filed application are broader in scope than the claims of the '488 Patent and accordingly the claims of the instant application would provide a coverage overlap of that of the claimed invention in the '488 Patent. This does not present for a patentable distinction over the claims of the '488 Patent. Also see *In re Berg*, 46 USPQ 2d 1226 (Fed. Cir. 1998).

Claims 52-56 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 57-62 of U.S. Patent No. 6,392,488 in view of Vernon 6,188,274 (Vernon). The '488 Patent fails to recite the use of the claimed power amplifier in a cellular telephone transceiver and antenna arrangement. However, the claimed power amplifier is clearly meant to be a component of a larger system and the use of a conventional power amplifier in a cellular

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telephone transceiver and antenna arrangement is common place. Note column 2 around line 50 of Vernon that states that RF power amplifiers find common usage in cellular telephones that includes an antenna and a transceiver. Vernon is silent on the details of the power amplifier thus one of ordinary skill in the art would have been motivated to use any art-recognized equivalent power amplifier for the power amplifier of Vernon. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed the power amplifier arrangement as claimed in claims 1-5 of the '488 Patent in a cellular telephone transceiver and antenna arrangement because as the claimed invention of the '488 patent is silent on the exact use of the amplifier component one of ordinary skill in the art would have been motivated to use the power amplifier in any conventional system that employs a generic power amplifier such as the conventional cellular telephone transceiver and antenna arrangement of Vernon. Adding limitations to a well-known use for a power amplifier does not provide for a patentable distinction since the combination (power amplifier and use for the power amplifier) relies on the details of the power amplifier and not the combination for patentability as evidenced by Vernon (Also see MPEP 806.05(c)). The details of the power amplifier are already known to exist due to the presence of the '488 Patent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 47-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koinuma 4,451,802 (Koinuma) in view of King 6,300,827 (King), Engbretson 5,311,150 (Engbretson), Dudley et al. 5,144,133 (Dudley) and Mandelman et al. 6,355,531 (Mandelman).

Figure 3 and the relevant text of Koinuma discloses a power amplifier arrangement and method of providing an amplifier having a preamplifier 1 (input stage) and the an output stage 2 and 3 that is supplied by two different power sources B₁ and B₂ wherein B₂ is of a greater magnitude than B₁ (See column 3 around line 36). Koinuma discloses in column 1, around line 9 that amplifiers of such as class A,B are used for powering a loudspeaker or "otherloads"(sic). Koinuma is silent on what the other loads are. One well known "other load" is the wireless transmission system, i.e. a cellular telephone that includes a transceiver and an antenna as evidenced by King (See abstract and column 7 around line 21).

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Also note that the amplifier class in King is that of class A, B, C etc.. Cellular arrangements clearly have an antenna that is necessary for transmission and reception. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace have the “other load” of Koinuma with a wireless transmission system because as the Koinuma reference is silent on the exact “other load” one of ordinary skill in the art would have been motivated to use any art-recognized equivalent load such as the cellular antenna with transceiver as taught by King. Note that by using the arrangement of Koinuma to power an antenna that this makes the power amplifier an “RF power amplifier”.

Figure 3 and the relevant text of Koinuma is also silent on the use of a CMOS preamplifier and CMOS for the output stage. Koinuma utilizes bipolars for the transistor elements in the output stage Engbretson shows that a FET is an equivalent structure known in the art. Therefore, because these two transistors were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the FET for the bipolar elements in Koinuma. As to the CMOS input stage, Koinuma is silent on the exact construction of this stage. Dudley in Figures 2 and 3 specifically recites that one conventional preamplifier stage is one that uses CMOS technology and thus includes FETs.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the generic preamplifier of Koinuma with a CMOS based unit because as the Koinuma reference is silent on the exact structure of the preamplifier one of ordinary skill in the art would have been motivated to use any art-recognized equivalent preamplifier such as the CMOS based preamplifier of Dudley.

In the structure made obvious above, the oxide thickness of the input stage CMOS and the output stage is not specified. However, it is commonly known that lower voltage MOSFETs utilize a thinner oxide layer as compared to higher voltage MOSFET. Note column 1, around line 21 of Mandelman that states MOSFETs for use with higher voltages have thicker gate oxide layers as compared to those with lower voltages so that the thicker gate oxide layers can “reliably sustain higher voltages”. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the oxide of the output stage thicker than the lower voltage input stage so that the higher output stage amplifier can “reliably sustain higher voltages” as taught by Mandelman.

The combination made obvious above is silent on the exact oxide thickness of 70 Angstroms and 140 Angstroms. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide such thicknesses, since it has been held that discovering an optimum value

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of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

As to forming the rf power amplifier on a single integrated circuit. It is well known to integrate a circuit so as to make the device more compact, more reliable than using discrete components.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the device made obvious above so as to make for a more compact and more reliable structure as is conventionally known in the art.

Conclusion

Applicant's arguments filed 4-7-2006 have been fully considered but they are not persuasive. Applicant states that Mandelmann is not "legal prior art". The examiner does not know what applicant means by this but it is assumed that applicant is referring to the filing date of Mandelmann. The filing date of Mandelmann is prior to the earliest filing date of 9-12-2000 of applicant's parent application by about a month. The examiner also respectfully disagrees with applicant's remarks for the Mandelmann does teach using larger thickness oxides over the parts that would be subject to a higher voltage. This only amounts to using the minimum thickness of oxide required for proper device operation thus saving at least oxide material. In other words one would not have selected to make the oxide extra ordinarily thick when a thinner layer would work.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 and after July 15, 2005 the fax number will be 571-273-8300. Note that old fax number (703-872-9306) will be service until September 15, 2005.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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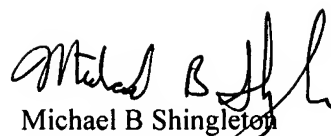
October 22, 2005

June 12, 2006

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A handwritten signature in black ink, appearing to read "Michael B. Shingleton". The signature is written in a cursive, flowing style with a large, prominent "M" and "S".

Michael B Shingleton

Primary Examiner

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